

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1 Claim 1 (currently amended): MSM type photo-detection device
2 designed to detect incident light and comprising reflecting
3 means ~~(2, 52, 82)~~ superposed on a first face of a support ~~(1, 51,~~
4 ~~81)~~ to form a first mirror for a Fabry-Pérot type resonant
5 cavity, a layer of material ~~(3, 53, 83)~~ that does not absorb said
6 light, an active layer ~~(4, 54, 84)~~ made of a semiconducting
7 material absorbing incident light and a network of polarization
8 electrodes collecting the detected signal, the electrodes network
9 ~~(5, 62)~~ being arranged on the active layer, the electrodes
10 network being composed of parallel conducting stripes at a
11 uniform spacing at a period less than the wavelength of incident
12 light, the electrodes network ~~(5, 62)~~ forming a second mirror for
13 the resonant cavity, the optical characteristics of this second
14 mirror being determined by the geometric dimensions of said
15 conducting strips, the distance separating the first mirror from
16 the second mirror being determined to obtain a Fabry-Pérot type
17 resonance for incident light between these two mirrors.

1 Claim 2 (currently amended): Photo-detection device according
2 to claim 1, ~~characterized in that~~ wherein the reflecting means
3 forming a first mirror are composed of a Bragg mirror ~~(2, 52)~~.

1 Claim 3 (currently amended): Photo-detection device according
2 to claim 2, ~~characterized in that~~ wherein the Bragg mirror ~~(2,~~
3 ~~52)~~ is composed of alternating layers of AlAs and AlGaAs d'AlAs
4 and alternating layers of GaInAsP and InP or alternating layers
5 of AlGaInAs and AlInAs or alternating layers of AlGaAsSb and
6 AlAsSb.

1 Claim 4 (currently amended): Photo-detection device according
2 to claim 1, ~~characterized in that~~ wherein the reflecting means
3 forming a first mirror are composed of a metallic layer ~~(82)~~.

1 Claim 5 (currently amended): Photo-detection device according
2 to claim 4, ~~characterized in that~~ wherein the metallic layer
3 ~~(82)~~ forming the first mirror provides a silver, gold or aluminum
4 surface to incident light.

1 Claim 6 (currently amended): Photo-detection device according to
2 claim 1, ~~characterized in that~~ wherein the reflecting means
3 forming a first mirror are composed of a multilayer dielectric
4 mirror.

1 Claim 7 (currently amended): Photo-detection device according to
2 claim 1, ~~characterized in that~~ wherein the layer of material ~~(3,~~
3 ~~53, 83)~~ that does not absorb light is made of $\text{Al}_x\text{Ga}_{1-x}\text{As}$ and the
4 active layer ~~(4, 54, 84)~~ is made of GaAs.

1 Claim 8 (currently amended): Photo-detection device according to
2 claim 7, ~~characterized in that~~ wherein x is of the order of 0.35.

1 Claim 9 (currently amended): Photo-detection device according to
2 claim 1, ~~characterized in that~~ wherein the layer of material ~~(3,~~
3 ~~53, 83)~~ that does not absorb light is made of AlInAs and the
4 active layer ~~(4, 54, 84)~~ is made of InGaAs.

1 Claim 10 (currently amended): Photo-detection device according
2 to claim 1, ~~characterized in that~~ wherein the electrodes network
3 ~~(5, 62)~~ forms two interdigitated combs.

1 Claim 11 (currently amended): Photo-detection device according
2 to claim 1, ~~characterized in that~~ wherein the electrodes network
3 ~~(5, 62)~~ is composed of said conducting strips that are adjacent
4 to each other and connected in floating potential.

1 Claim 12 (currently amended): Photo-detection device according
2 to claim 1, ~~characterized in that~~ wherein the conducting strips
3 are made of silver or gold or aluminum.

1 Claim 13 (currently amended): Photo-detection device according
2 to claim 1, ~~characterized in that~~ wherein a passive layer of
3 dielectric material is deposited on the electrodes network.

1 Claim 14 (currently amended): Photo-detection device according
2 to claim 13, ~~characterized in that~~ wherein the passivation layer
3 is made of silicon dioxide or silicon nitride.

1 Claim 15 (currently amended): Photo-detection device according
2 to claim 1, ~~characterized in that~~ wherein a second face of the
3 support supports an electrode to apply an electrical field to the
4 device to change the resonant wavelength of the resonant cavity
5 by the opto-electric effect.

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